(U) (X) P S G R K S S K M Q A F R I W D V N Q K T F Y L R N

N Q L V A G Y L Q G P N V N L E E K I D V V P I E P H A

L F L G I H G G K M C L S C V K S G D E T R L Q L E A V

N I T D L S E N R K Q D K R F A F I R S D S G P T T S F

E S A A C P G W F L C T A M E A D Q P V S L T N M P D E

G V M V T K F Y F Q E D E

wherein (U) is M or nothing and (X) is R or P; and

B) a polypeptide that is at least about 70% homologous to the amino acid sequence set forth in A).

REMARKS

Informalities

The Examiner addressed informalities concerning the drawing figures and declaration at pages 2 and 3, Item Nos. 2 through 8 of the Office Action. As permitted under 37 C.F.R. § 1.111(b), applicants request that these informal matters be held in abeyance until the application is otherwise indicated to be allowable.

At page 3, Item No. 9, the Examiner requested correction of informalities at pages 10 and 70 of the specification. Applicants amended those pages as suggested.

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Double Patenting Rejections

The Examiner rejected claims 22 to 25 over U.S. Patent No. 5,075,222 (the '222 patent) under the judicially created doctrine of double patenting. Action at pages 4 and 5, Item Nos. 10 and 11. In view of the Examiner's comments, applicants assume that the Examiner is asserting this rejection under the doctrine of "obviousness-type" double patenting. If applicants' assumption is not correct, they request that the Examiner clarify the rejection. An applicant can obviate an obviousness-type double patenting rejection by filing a terminal disclaimer. If the Examiner holds that the presently pending claims are otherwise allowable, applicants will file a terminal disclaimer in view of the '222 patent. Thus, this rejection will be obviated. Applicants are not filing such a disclaimer at this time, since the claims may change prior to an indication of allowance, and the claims pending after such changes may not be subject to a double patenting rejection.

The Examiner rejected claims 24 and 25 over U.S. Patent No. 5,453,490 (the '490 patent) under the judicially created doctrine of double patenting. Action at pages 5 and 6, Item No. 12. In view of the Examiner's comments, applicants assume that the Examiner is asserting this rejection under the doctrine of "obviousness-type" double patenting. If applicants' assumption is not correct, they request that the Examiner clarify the rejection. An applicant can obviate an obviousness-type double patenting rejection by filing a terminal disclaimer. If the Examiner holds that the presently pending claims are otherwise allowable, applicants will file a terminal disclaimer in view of the '490 patent. Thus, this rejection will be obviated. Applicants are not filing such a disclaimer

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at this time, since the claims may change prior to an indication of allowance, and the claims pending after such changes may not be subject to a double patenting rejection.

Rejections Under 35 U.S.C. § 101

The Examiner rejected claims 22 and 23 under 35 U.S.C. § 101 "because the claimed invention is directed to non-statutory subject matter." Action at page 6, Item No. 13. First, the Examiner contends that claim 22 encompasses naturally occurring DNA since the DNA is not isolated. Solely in an effort to expedite prosecution, claim 22 has been amended to recite "an isolated nucleic acid." Thus, this basis for the rejection is moot.

Second, the Examiner contends that Watson teaches that "[a]ll DNA is recombinant DNA," and thus the term "recombinant nucleic acid" in claim 23 fails to distinguish over natural host cells. Id. Applicants disagree that, in view of the present specification, one skilled in the art would construe claim 23 to encompass natural host cells. Solely to expedite prosecution, however, claim 23 has been amended to recite a "recombinant host cell" and to be an independent claim that directly defines the nucleic acid rather than relying on a definition in claim 22. Applicants respectfully assert that one skilled in the art, in view of the present specification, would construe claim 23 as a host cell that has been affected by the hand of man. Thus, this basis for the rejection is moot.

For these reasons, applicants respectfully request reconsideration and withdrawal of the § 101 rejection of claims 22 and 23.

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Rejections Under 35 U.S.C. § 102

The Examiner rejected claims 22 to 25 under 35 U.S.C. § 102(a) as allegedly being anticipated by each of Hannum et al. (U), Eisenberg (V), and Hannum (N). Action at pages 7 to 8, Item Nos. 14 to 16. Applicants respectfully traverse these rejections.

Applicants have amended the specification to include reference to four parent applications of U.S. Serial No. 07/506,522 (the '522 application), which had already been referenced at the first paragraph of the specification. The '522 application was a continuation of U.S. Patent Application Serial No. 07/266,531 (the '531 application), which was filed November 3, 1988. Thus, the '531 application has the same disclosure as the '522 application. Also, the '522 application is the patent application from which the '222 patent issued Moreover, the Examiner has correctly stated that the '222 patent fully disclosed the subject matter claimed in the present application.

266,531 not indeed.

Thus, claims 22 to 25 of the present application are entitled to at least the November 3, 1988, filing date of the '531 application. That filing date precedes the publication dates of Hannum (U) (January 1990), Eisenberg (V) (January 1990), and Hannum (N) (November 1989). Accordingly, applicants respectfully request reconsideration and withdrawal of the § 102(a) rejections in view of each of Hannum et al. (U), Eisenberg (V), and Hannum (N).

The Examiner rejected claims 24 and 25 under 35 U.S.C. § 102(e) as allegedly being anticipated by Hageman (B). Action at page 9, Item No. 18. Applicants respectfully traverse this rejection.

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As asserted above, claims 24 and 25 of the present application are entitled to at least the November 3, 1988, filing date of the '531 application. That filing date precedes the filing date of Hageman (B) (November 1989). Accordingly, applicants respectfully request reconsideration and withdrawal of the § 102(e) rejection in view Hageman (B).

If there are any fees due in connection with the filing of this Amendment, please charge the fees to our Deposit Account No. 06-0916. If a further extension and/or fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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By: 

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